ENVIRONMENTAL ASSESSMENT
East Fork Gate Repair

I. PART 1 DESCRIPTION OF PROPOSED ACTION

1. Description of water body and action:

Water Body: East Fork Big Spring Creek
Water Code: 16-1340
Location: Region 4, Fergus County, T14N R19E Section 14

This on-stream storage reservoir was constructed in the mid 1970's on East Fork Big Spring Creek for flood retention and recreation. It is 119 surface acres, has a storage pool of 1100 acre-feet and is about 25 feet deep. At maximum flood retention the pool is about 5297 acre-ft. Mean outflow from the reservoir was 28.8 cfs from sporadic sampling from 1975 – 1985 (Natural Resource and Conservation Service data). The reservoir contains northern pike, yellow perch, bluegill, white suckers and longnose sucker. Largemouth bass have been stocked but do not appear to have established a population. Stocking of rainbow or brown trout occurred up through 1987 and 1994, respectively; trout are currently not a measureable component of the existing fishery. The northern pike, yellow perch and bluegill were illegally introduced but provide a popular sport fishery. East Fork Big Spring Creek drains into Big Spring Creek, a premier trout stream, 8 miles downstream of the dam.

The City of Lewistown "the City" proposes to drain East Fork Reservoir to allow repair of the damaged gate stem on the upstream face of East Fork Dam. At normal pool the gate will be opened with a die collar overshot tool or with divers. The City proposes to lower the reservoir about one foot per day during a one month low-flow period. Once the reservoir is drained the gate stem will be modified and reinstalled.

2. Need For Action:

The City was told several years ago by the DNRC to repair the gate for compliance with the Dam Safety Act. This gate allows the city to drain East Fork Reservoir below the normal pool. Repair of the gate will bring the City into compliance with Dam Safety Act Requirements.

3. Agency authority for proposed Action.

The City applied to Montana Fish, Wildlife and Parks (MFWP) for a 124 permit for the project. An environmental review is required for 124 permits. A review had not been completed by the City of Lewistown at the time MFWP received the Joint Application form required in the 124 permitting process. Consequently, MFWP's proposed action of issuing the 124 permit required the preparation of this Environmental Assessment as part of the 124 permitting process. Related state statutes and administrative rules include: 2-3-103 MCA; 12.2.301-306 ARM.

4. Implementation Date

Work is planned for summer 2011 but may be postponed until 2012 due to high flow conditions encountered in spring and early summer 2011.

PART II. ENVIRONMENTAL REVIEW

1. Evaluation of the impacts of the Proposed Action including secondary and cumulative impacts on the Physical and Human Environment.

A. PHYSICAL ENVIRONMENT

1. LAND RESOURCES **Will the proposed action result in:**	**IMPACT ∗**				**Can Impact Be Mitigated∗**	**Comment Index**
	Unknown ∗	**None**	**Minor ∗**	**Potentially Significant**		
a. ∗∗Soil instability or changes in geologic substructure?		X				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil which would reduce productivity or fertility?		X				
c. ∗∗Destruction, covering or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?			X			1D
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				
f. Other:		X				

1D. East Fork Reservoir will be emptied for gate repair. We anticipate temporary turbidity increase during the drawdown from sediment erosion of the East Fork Reservoir pool bed. However, flows downstream of East Fork Reservoir will be much lower than during 2011 run-off. Impacts to the East Fork channel should be much less than seen earlier in 2011. The 124 permit will require the City to complete the repair as quickly as practical, to reduce erosion of lake-bottom sediments.

2. AIR **Will the proposed action result in:**	**IMPACT ∗**				**Can Impact Be Mitigated∗**	**Comment Index**
	Unknown ∗	**None**	**Minor ∗**	**Potentially Significant**		
a. ∗∗Emission of air pollutants or deterioration of ambient air quality? (also see 13 (c))		X				
b. Creation of objectionable odors?			X			2B
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. ∗∗∗For P-R/D-J projects, will the project result in any discharge, which will conflict with federal or state air quality regs? (Also see 2a)		X				
f. Other:		X				

2B. Sediments and vegetation on the bottom of the reservoir may smell bad when East Fork is drawn down. The effect will be temporary and may last until the reservoir is re-filled.

3. WATER **Will the proposed action result in:**	**IMPACT ∗**				**Can Impact Be Mitigated∗**	**Comment Index**
	Unknown ∗	**None**	**Minor ∗**	**Potentially Significant**		
a. ∗Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?				X	X	3A
b. Changes in drainage patterns or the rate and amount of surface runoff?				X	X	3B
c. Alteration of the course or magnitude of floodwater or other flows?			X benefit			3C
d. Changes in the amount of surface water in any water body or creation of a new water body?			X			3D
e. Exposure of people or property to water related hazards such as flooding?			X benefit			3E
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				
i. Effects on any existing water right or reservation?				X	X	3I
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?			X			3K
l. ∗∗∗∗For P-R/D-J, will the project affect a designated floodplain? (Also see 3c)		NA				3L
m. ∗∗∗For P-R/D-J, will the project result in any discharge that will affect federal or state water quality regulations? (Also see 3a)		NA				
n. Other:		X				

3A, 3B, 3D. Discharge will be modified during drawdown and refilling of the reservoir. The City will be required to mitigate impacts by following a drawdown and refilling plan in the 124 permit. Repair to the gate structure may allow discharge from the reservoir during drought conditions and increase Big Spring Creek flows.

3C, 3E. The City is not in compliance with the Dam Safety Act. The drawdown will allow drawdown of East Fork Reservoir and result in repairs that are required of the City and should benefit flood control and allow the operation of a water release structure that is currently not operable.

3I, 3K. MFWP has an instream flow right of 7.5 cfs on East Fork Big Spring Creek. The City will be required to maintain the instream flow right if sufficient inflow is available. There are several other water rights below East Fork Dam that could be impacted by drawdown and refilling. The City will contact water right holders on East Fork downstream of the dam to mitigate negative impacts to their water rights.

3L. The city will contact the appropriate floodplain administrator and comply with all permit requirements.

4. VEGETATION **Will the proposed action result in:**	**IMPACT ∗**				**Can Impact Be Mitigated ∗**	**Comment Index**
	Unknown ∗	**None**	**Minor ∗**	**Potentially Significant**		
a. Changes in the diversity, productivity or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?		X				
b. Alteration of a plant community?		X				
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?		X				
f. ∗∗∗∗For P-R/D-J, will the project affect wetlands, or prime and unique farmland?		X				
g. Other:		X				

No changes in vegetation are anticipated.

** 5. FISH/WILDLIFE Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Deterioration of critical fish or wildlife habitat?		X				
b. Changes in the diversity or abundance of game animals or bird species?			X			5B
c. Changes in the diversity or abundance of nongame species?			X			5C
d. Introduction of new species into an area?		X				5D
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?		X				
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?				X	X	5G
h. ****For P-R/D-J, will the project be performed in any area in which T&E species are present, and will the project affect any T&E species or their habitat? (Also see 5f)		NA				
i. ***For P-R/D-J, will the project introduce or export any species not presently or historically occurring in the receiving location? (Also see 5d)		NA				
j. Other:						

5B, 5C, 5D. There will be less than 2 feet of water in East Fork Reservoir after drawn down (MFWP bathymetric surveys). The existing fish fauna maybe eliminated from the reservoir. Sucker species will likely re-establish from upstream stocks. If the drawdown is short term with large inflows, or the pool depth and volume are larger than anticipated some individuals of all species may survive. Brook trout and brown trout may colonize the reservoir from wild stocks. Potential elimination of northern pike, yellow perch and/or bluegill may allow for introduction of other species in East Fork Reservoir. New MFWP introductions will be analyzed in a separate EA.

5G. Drawdown will reduce fish numbers and could alter species composition in East Fork Reservoir. Fish from the reservoir will wash downstream when the reservoir is drained. The reservoir outlet cannot be screened because it is a flood control structure. A flood event (greater than 100 years) during 2011 likely resulted in a mass downstream fish emigration. Even during low flow years fish emigrate downstream from East Fork Reservoir. Northern pike that emigrate from East Fork will consume some trout in Big Spring Creek. Fish in East Fork have easy access to Big Spring Creek and would have established populations if it was suitable habitat. Downstream waters (East Fork Big Spring Creek, Big Spring Creek) are good habitat for the sucker species, but yellow perch and northern pike are rare during MFWP fish surveys in Big Spring Creek. Draining and refilling East Fork Reservoir has the potential to stop inflow into East Fork Spring Creek and have significant impacts on the aquatic fauna on that stream. The City can mitigate this concern by controlling outflow during refilling, which will be a requirement in the 124 permit.

B. HUMAN ENVIRONMENT

6. NOISE/ELECTRICAL EFFECTS **Will the proposed action result in:**	**IMPACT ∗**				**Can Impact Be Mitigated ∗**	**Comment Index**
	Unknown ∗	**None**	**Minor ∗**	**Potentially Significant**		
a. Increases in existing noise levels?			X			6B
b. Exposure of people to serve or nuisance noise levels?		X				
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				
e. Other:		X				

6 A. There may be some temporary increase in noise during the drawn down and repair.

7. LAND USE **Will the proposed action result in:**	**IMPACT ∗**				**Can Impact Be Mitigated ∗**	**Comment Index**
	Unknown ∗	**None**	**Minor ∗**	**Potentially Significant**		
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. Conflicted with a designated natural area or area of unusual scientific or educational importance?		X				
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?		X				
d. Adverse effects on or relocation of residences?		X				
e. Other:		X				

No changes in land use are anticipated.

8. RISK/HEALTH HAZARDS **Will the proposed action result in:**	**IMPACT ∗**				**Can Impact Be Mitigated ∗**	**Comment Index**
	Unknown ∗	**None**	**Minor ∗**	**Potentially Significant**		
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		X				
b. Affect an existing emergency response or emergency evacuation plan or create a need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?		X				
d. ∗∗∗For P-R/D-J, will any chemical toxicants be used? (Also see 8a)		X				
e. Other:		X				

No increased risk or health hazards are anticipated. There should be a reduction in risk with the dam gate repair.

9. COMMUNITY IMPACT **Will the proposed action result in:**	**IMPACT ∗**				**Can Impact Be Mitigated ∗**	**Comment Index**
	Unknown ∗	**None**	**Minor ∗**	**Potentially Significant**		
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?		X				
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X				
f. Other:		X				

No community impacts are anticipated.

10. PUBLIC SERVICES/TAXES/UTILITIES **Will the proposed action result in:**	**IMPACT ∗**				**Can Impact Be Mitigated ∗**	**Comment Index**
	Unknown ∗	**None**	**Minor ∗**	**Potentially Significant**		
a. Will the proposed action have an effect upon or result in a need for new or altered governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If any, specify:		X				
b. Will the proposed action have an effect upon the local or state tax base and revenues?		X				
c. Will the proposed action result in a need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Will the proposed action result in increased used of any energy source?		X				
e. ∗∗Define projected revenue sources		X				
f. ∗∗Define projected maintenance costs.		X				
g. Other:		X				

No increased needs for public service/taxes/utilities are anticipated.

** 11. AESTHETICS/RECREATION Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?			X			11A
b. Alteration of the aesthetic character of a community or neighborhood?			X			11B
c. **Alteration of the quality or quantity of recreational/tourism opportunities and settings? (Attach Tourism Report)			X			11C
d. ***For P-R/D-J, will any designated or proposed wild or scenic rivers, trails or wilderness areas be impacted? (Also see 11a, 11c)		X				
e. Other:		X				

11A, 11B, 11C.There will be temporary impacts to public recreation and scenic views during the draw down. During the drawdown mud flats will be exposed from the bottom of East Fork. The reservoir will not be available for water-based recreation. Access is currently not available to the campground area due to washouts during the 2011 flood.

12. CULTURAL/HISTORICAL RESOURCES Will the proposed action result in:	IMPACT *				Can Impact Be Mitigated *	Comment Index
	Unknown *	None	Minor *	Potentially Significant		
a. **Destruction or alteration of any site, structure or object of prehistoric historic, or paleontological importance?		X				
b. Physical change that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				
d. ****For P-R/D-J, will the project affect historic or cultural resources? Attach SHPO letter of clearance. (Also see 12.a)		X				
e. Other:		X				

There will be no anticipated impacts on cultural resources.

SIGNIFICANCE CRITERIA

13. SUMMARY EVALUATION OF SIGNIFICANCE **Will the proposed action, considered as a whole:**	**IMPACT ∗**				**Can Impact Be Mitigated ∗**	**Comment Index**
	Unknown ∗	**None**	**Minor ∗**	**Potentially Significant**		
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources that create a significant effect when considered together or in total.)		X				
b. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?		X				
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?		X				
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				
f. ∗∗∗For P-R/D-J, is the project expected to have organized opposition or generate substantial public controversy? (Also see 13e)		X				
g. ∗∗∗∗For P-R/D-J, list any federal or state permits required.		X				

Over the long-term, the proposed repair will have positive effects with compliance with the Dam Safety Act.

PART II. ENVIRONMENTAL REVIEW, CONTINUED

2. **Description and analysis of reasonable alternatives (including the no action alternative) to the proposed action whenever alternatives are reasonably available and prudent to consider and a discussion of how the alternatives would be implemented:**

1. No action. The outlet gate of the principal spillway would not be repaired and the dam would not meet Dam Safety requirements. This would continue to impose a liability for the City of Lewistown. In the event of a catastrophic flood, the dam could not be operated to reduce or eliminate the risk of floodwater to residents and businesses of Lewistown.

2. Repair the low level outlet gate by installing cofferdams and construction of a second gate. This alternative would eliminate the need to de-water the reservoir to repair or replace the low level outlet gate on any repairs that would be required in the future. The estimated cost for this alternative in 2006 was $703,341.

3. Repair the outlet gate of the principal spillway by using a die overshot tool that will thread on the existing gate system allowing the gate to be opened from the normal location on the upstream face of the dam.

4. Hire divers to insert a pneumatic plug into the outlet pipe at the principal spillway drop structure to stop the flow of water, drain the reservoir, install necessary components to repair the existing gate stem, complete excavation and replace rock riprap.

5. Breach the dam. This alternative would greatly increase flood risks to the City of Lewistown residents and businesses. The ability of Lewistown residents and businesses to obtain Flood Insurance would be jeopardized.

Preferred Alternative: Alternative 3 was selected by the City of Lewistown as the preferred alternative due to cost. If the die overshot tool does not work the City has chosen Alternative 4 as a backup alternative. Construction of cofferdams is not feasible due to the high cost. Breaching the dam and no action are not feasible alternatives due to increased hazards to Lewistown.

PART III. EA CONCLUSION SECTION

1. Based on the significance criteria evaluated in this EA, is an EIS required (YES/NO)? NO

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action.

The action is expected to be minor and be beneficial to the City of Lewistown. Negative impacts to the East Fork fishery should be short term.

2. Describe the level of public involvement for this project if any and, given the complexity and the seriousness of the environmental issues associated with the proposed action, is the level of public involvement appropriate under the circumstances?

   Kevin Myhre Lewistown City Manager, Roger Kruckenberg Lewistown Public Works director and George Liknes MFWP Region 4 Fisheries program manager were consulted. The City Application for DNRC renewable resource grant was used as a resource for this assessment.

   The public will be notified by the MFWP web page. Known interested parties will be contacted directly.

3. Duration of comment period.

   Public comments will be accepted through July 22, 2011 or for approximately 30 days after placed on the MFWP website. Comments can be mailed to Anne Tews, Montana Fish, Wildlife & Parks, P.O. Box 938, Lewistown, MT 59457 or sent by e-mail to antews@mt.gov.

4. Name, title, address and phone number of the person(s) responsible for preparing the EA:

   Anne Tews
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   Montana Fish, Wildlife and Parks
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